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Abstract

This investigation attempts to demonstrate the importance of having trained Reading Recovery teachers in first grade classrooms. Reading education has always been a vital part of curricula in school districts across America. Successful reading requires numerous basic processes, such as the identification of letters, the mapping of letters onto sounds, word decoding, the recognition of words, and the use of syntax and semantic cues. Several areas of learning such as emergent literacy also facilitate the process of reading. Reading involves recognition of visual patterns-groups of words, word parts, clusters of letters and single letters. Reading also involves knowledge of the conventions of printed language, such as directional rules, space formats, and punctuation signals for new sentences, new speakers, and questions. Beginning readers have to learn the directional "road rules" for print (Clay, 2002).

Literacy Instruction in First Grade Classrooms: Teachers Trained in Reading Recovery in Comparison with Teachers Who Have Not Been Trained

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Literacy Instruction in First Grade Classrooms: Teachers Trained in Reading Recovery in Comparison with Teachers Who Have Not Been Trained

This investigation attempts to demonstrate the importance of having trained Reading Recovery teachers in first grade classrooms. Reading education has always been a vital part of curricula in school districts across America. Successful reading requires numerous basic processes, such as the identification of letters, the mapping of letters onto sounds, word decoding, the recognition of words, and the use of syntax and semantic cues. Several areas of learning such as emergent literacy also facilitate the process of reading. Reading involves recognition of visual patterns-groups of words, word parts, clusters of letters and single letters. Reading also involves knowledge of the conventions of printed language, such as directional rules, space formats, and punctuation signals for new sentences, new speakers, and questions. Beginning readers have to learn the directional "road rules" for print (Clay, 2002). They must acquire phonemic awareness, or the ability to hear discrete sounds in words and clear breaks between words. Young children have some difficulty breaking messages up into words, and they have even greater difficulty breaking up a word into its sequence of sounds and hearing the sounds in sequence. The ultimate goal of reading, however, is for readers to enjoy and learn from text; to recognize the depicted facts or events, to connect them to each other and to background knowledge. The consensus among reading researchers is that developing reading skills early is crucial. The basic skills are just as essential to the reading process as higher-order cognitive skills needed for comprehension (Pressley & Woloshyn, 1995). They provide the initial input from

which mental representations of the text are constructed. In addition, well-developed basic skills decrease the demands on readers' cognitive resources. With instruction and experience, readers recall these basic components of reading, thereby freeing energy for more advanced components (Van Den Broek & Kremer, 2000). A firm grasp of basic skills allows students to use other kinds of higher level skills and strategies: knowledge of how the world works, possible meanings of text, sentence structures of the language, rules about the order of letters, words, or ideas, words often used in the language, and special knowledge about books and literary experiences (Clay, 2002). Schools aim to provide children with the tools to perform basic processes and to assist readers who have difficulty developing them.

It is believed one way to maximize development of early reading competencies is to provide first grade students with explicit instruction in learning strategies that may enable them to become independent, strategic, self-monitoring readers (Kinnucan-Welsch, Magill, & Dean, 1997; Kinnucan-Welsch, Magill, Dean, & Schmich, 1998; Magill & Dean, 1998). Reading strategies are mental and behavioral activities that people use to increase their likelihood of comprehending text. Metacognition is the knowledge of when to apply such strategies as a function of text difficulty, situational constraints, and the reader's own cognitive abilities (Van Den Broek & Kremer, 2000). Both reading strategies and metacognition play important roles in the reading process. For instance, simply teaching children a reading strategy often does not result in their being able to use it in contexts other than that in which it is first learned. For transfer to occur across time and contexts, readers must also acquire metacognitive awareness of what conditions warrant the application of a strategy. That is, readers must develop

the ability to monitor comprehension and monitor the environment to detect when these conditions are met (Van Den Broek & Kremer, 2000). Together, reading strategies and metacognition enable readers to allocate their cognitive resources to what is most important in text. In doing so, these skills make or break attempts at achieving a coherent mental representation of what is being read.

Because reading strategies and metacognitive skills are learned and generalized to a wide range of contexts, they are at the core of most reading instruction and remediation programs. Early intervention programs, like the Reading Recovery program, can assist struggling readers and writers and may offer the greatest benefits to children (Clay, 1990a, 1990b; Lyons et al., 1993). The Reading Recovery program provides teachers with explicit training in instructional practices that foster students' application of cognitive and metacognitive strategies. As a former Reading Recovery teacher, I am interested in observing the literacy instruction of both Reading Recovery and non-Reading Recovery trained teachers to determine whether Reading Recovery teachers are applying specific skills learned during training that provide their students opportunities to build lifelong literacy skills not necessarily available otherwise. With declining budgets, some suggest such programs as Reading Recovery are unaffordable. The cost of training just one teacher in the program nationally was approximately $17,000 in 1999, not including educational materials, training facilities, and mentor visits (Ruzzo, 1999). For one half of each working day, a Reading Recovery teacher must concentrate exclusively on the program rather than on regular classroom activities (Ruzzo, 1999). The other half of the day may be devoted to small or large group literacy instruction for students' struggling with reading or writing. Dyer and Binkey

(1985) argue that programs designed to support children in a one-to-one instructional environment, where a trained teacher purposefully scaffolds each child in the use of cues and strategies as part of the reading process, are more cost-effective than special education costs that may arise for students in need of additional small-group support. Marie Clay, who founded the Reading Recovery program, supports their argument in that reading and writing difficulties worsen if untreated and many struggling readers fall further behind their classmates over time (1993a). This article describes results of a classroom based pilot research project, the outcome of which suggests there are broad benefits for struggling readers when Reading Recovery training is provided to first grade teachers who in turn apply these strategies to daily instruction. For this research, the literacy instruction of trained Reading Recovery teachers and non-Reading Recovery trained teachers instruction was examined. Student literacy outcomes of text level growth and comprehension were also examined. Supporting documents were gathered in the form of observation of the organizational structure of literacy activities and types of instructional materials used, testing results and student work samples.

This study was a preliminary examination of the impact a trained Reading Recovery teacher might have on the literacy achievement of first grade students. This researcher acknowledges this was a small sampling of the trends in children's literacy development. Three students from three achievement groups (low, average and high achievement) were observed. A small sampling will not provide definitive results, but may suggest evidence for improving performance of low and average achieving students.

Review of Literature

Reading Recovery is an early intervention instructional program that supports the literacy development of children determined to be most at risk for failure in reading (Clay, 1979, 1985; Pinnell, Lyons, DeFord, Byrk, & Seltzer, 1994; Shanahan & Barr, 1995). The program was developed in New Zealand by Marie Clay and introduced into the United States through a collaborative arrangement with Ohio State University (Lyons, Pinnell, & DeFord, 1993). This program focuses on young children because, in Clay's own words, "The difficulties of the young child might be more easily overcome if he/she had practiced error behavior less often, had less to unlearn, and still had reasonable confidence in his own ability" (1979, p.5). Reading Recovery intervention is provided as a supplement to classroom teaching, and is generally considered to be one of the most effective ways of increasing students' achievement (Clay, 1985; Pinnell, 1989; Spiegel, 1992). Studies in New Zealand and in the United States suggest this program has been highly effective in accelerating the development of reading skills (Clay, 1990a, 1990b; Lyons et al., 1993). In a comprehensive review of the studies examining the effectiveness of Reading Recovery, Shanahan and Barr (1995) reported favorably on the findings from studies showing positive effects, concluding that many of the students served by Reading Recovery are brought up to the level of their average-achieving peers. This program offers intensive literacy support to the lowest achieving students in first grade. Trained teachers work individually with first grade students who require immediate literacy support (Clay, 1985; Pinnell, 1989; Spiegel, 1992). These students are chosen by analyzing a battery of assessments (see Appendix A) given at the beginning of first grade as well as assessing their performance relative to their

classmates according to teacher judgement. Thus, entry and exit levels vary according to average expectations in each school. The same battery of assessments is given at the end of the student's program to document progress. The program features explicit instruction in both cognitive and metacognitive skills and strategies of reading and writing. The trained Reading Recovery teacher plans and implements 30-minute daily lessons that are specifically tailored to meet the confusions and struggles of an individual at-risk reader (Hicks & Villaume, 2000-2001). The lessons are designed to help children build necessary literacy knowledge while at the same time promoting the development of a "self-extending system" (Clay, 1979, 1985, 1993b). Clay (1991a) described this system as "an interactive, self-improving network of knowledge and strategies that enables beginning readers to gain inner control of the reading process and to expand their reading expertise each time they interact with text."

According to Marie Clay, students need to be functioning independently at an average first grade level before they are released from the program (1985). Most students involved in the program are able to reach the average reading level in 12 to 20 weeks. Every student in Reading Recovery is entitled to a "full program," which consists of 20 weeks (Reading Recovery Program [1996-1997] Evaluation Report, 1998). Not all students need the 20 weeks to reach the average level, and some are not able to reach this level after 20 weeks. Those students who do meet the criteria are "graduated," or "discontinued." Students who do not meet the criteria are recommended for additional and different educational assistance.

Part of the criteria for "discontinuation" is that a participating student is able to function in the classroom without the one-on-one support they have been receiving.

The assessment battery, called the Observation Survey (Clay, 1993a), is administered to the child by another Reading Recovery teacher. The results of the assessment are analyzed, and the Reading Recovery teacher meets with the classroom teacher to discuss the child's progress. If the teachers agree adequate progress is evident, then the child is discontinued from the program. In addition to showing good gains on the assessment battery, Reading Recovery students, ready for discontinuation, independently must demonstrate a variety of successful reading and writing strategies when working with words (Askew, Fountas, Lyons, Pinnell, & Schmitt, 1998; Clay, 1991a; Wasik & Slavin, 1993). Students must show one-to-one matching of spoken to written word to make sure what they are reading matches what is written on the page. The child needs to self-monitor his or her reading to detect errors. Students need to notice discrepancies by cross-checking one cue source (e.g. meaning) against another (e.g. structural or visual) and be quick to use a combination of these cue sources. For example, if a student reads *dive* for *drive* they must be able to use different cue sources to determine which word is the correct term in that given sentence. If students have gained control of these strategies, it will show in the amount of self-corrections made during reading and writing tasks. When these reading and writing strategies are apparent, students are said to have a "self-extending system" that allows them to be proficient readers and writers (Clay, 1993b).

The success of this type of one-on-one intensive remediation depends on the quality of teaching; Reading Recovery employs highly skilled, specially trained teachers to provide instruction (Groom, Lyons, Pinnell, DeFord, Sullivan, Cai, & Nilges, 1991). The training is intensive, long-term, and universal; everyone

participates. Reading Recovery teachers are enrolled in over a year of intensive training in the strategies and routines to be followed in the tutorial. While training is delivered during two hour in-service sessions at one or two weekly intervals over the period of a year, teachers are working with children and carrying out other teaching duties throughout their period of training (Clay, 1987). Teachers in training, as well as fully-trained Reading Recovery teachers spend half their day teaching Reading Recovery and have other teaching duties the other half of the day. For example: some teach Title I small groups and some job share in first-grade classrooms. The training involves considerable reflection about teaching. This is facilitated by a one-way mirror observation arrangement. One trainee conducts a live lesson with an individual child behind the glass, while the rest of the class looks on and, with the prompting and probing of the trainer, conducts an ongoing critique of the lesson, trying to weed out the basis of her/his decisions and alternative practices he or she might have tried at key points. Afterward, the behind-the-glass teacher joins the rest of the class for a recap of the lesson and the critique. This type of reflective but focused critique helps ensure the high levels of training and the philosophical continuity that are demanded both during the initial training and in the follow-up phases. There is some evidence (Gaffney & Anderson, 1991) to suggest that the teacher reflection engaged in during these training sessions manifests changes in classroom teaching practices; that is, they work differently with groups in their classrooms because they possess new knowledge about learning to read. The effectiveness of this instruction has been validated by empirical research, especially for the target population of students considered at risk for failure or who have been identified as having reading disabilities (Bloom, 1984; Jenkins, Mayhill,

Peschka, & Jenkins, 1974; Juel, 1991; Wasik & Slavin, 1993).

This investigation explores whether highly trained Reading Recovery teachers teaching in regular classrooms can enhance student learning over classrooms in which Reading Recovery training is not in evidence. Progress on the reading of high, average and low achieving students in a classroom with a Reading Recovery trained classroom teacher is compared with progress of students in a classroom with a non-Reading Recovery trained teacher. Much of recent research supports the benefits of providing a "balanced approach" to literacy instruction (Cassidy & Cassidy, 1998-1999; Cunningham & Hall, 1998; Fitzgerald, 1999; Spiegel, 1992). Gone are the days of a pure phonics-based reading curriculum (Chall, 1967; Cunningham, 1994) or a whole-class literature-based philosophy of teaching reading (McIntyre & Pressley, 1996; Spiegel, 1992). Today's research calls for an integrated literacy approach in which a combination of philosophical models are implemented (Cassidy & Cassidy, 1998-1999; Cunningham & Hall, 1998; Dorn, French, & Jones, 1998). A "balanced approach" can involve a combination of methods or practices that were previously associated with different philosophies. According to Pinnell and Fountas (1998), "Children who read more are likely to become better readers and children who write more are likely to learn how to write better. Therefore, it makes sense to provide children with the learning opportunities that allow them to gain proficiency in reading and writing when engaging in a literacy task." Not surprisingly, motivation and achievement are linked (Gambrell, Block, & Pressley, 2002). As individuals read more, they read better and learn more about the world. The result is better comprehension. Effective comprehension instruction can increases students' motivation to read in several ways (Gambrell, Block,

& Pressley, 2002). Comprehension is a crucial part of the reading and writing task. It is an important factor in determining not only reading accuracy, but reading for meaning. Comprehension, the "bottom line" of reading, is arguably the most important but most complex dimension of reading instruction (Robinson, McKenna, & Wedman, 2004). Pressley (2002), states "There are multiple ways to improve comprehension, with all of them potentially affected by instruction. Although a good case can be made for teaching comprehension strategies to elementary students, it is important to do so in the context of a reading program that includes teaching to promote word recognition skills, vocabulary knowledge, and extensive reading of books filled with the word knowledge that young readers need to acquire."

Adult-delivered, one-on-one instruction is the ideal teaching practice identified by non-trained Reading Recovery classroom teachers, but they also report they are rarely able to implement the ideal in their classroom (Moody, Vaughn, & Schumm, 1997). Corroborating these teachers' reports is a study indicating when one-on-one and small group instruction is provided within the general education classroom, it is usually implemented for less that one minute. This short time serves largely to clarify information, answer questions, or check for understanding (McIntosh, Vaughn, Schumn, Haager, & Lee, 1993), rather than provide systematic, remedial instruction.

In the current study, to determine whether trained Reading Recovery teachers effectively enhance student performance, the following questions were addressed: 1) Do trained Reading Recovery teachers who are now in first grade classrooms provide differentiated literacy instruction that enables their students to become independent readers and writers in comparison with those teachers who have not been trained? 2)

How do student achievement results in selected Reading Recovery classrooms, where Reading Recovery strategies are applied, compare with non-Reading Recovery classrooms? 3) Can teachers who have received Reading Recovery training effectively and beneficially apply systematic and remedial one-on-one and small group instruction?

Methods

This study involved two first grade classrooms from two different elementary schools (Building A and Building B) in a small urban school district in northeast Iowa. The district had a total K-12 student population of 10,311 for the 2001-2002 school year. District wide, 49.4% of students were on free or reduced lunch; 83% of the students in Building A, and 71% of the student population attending Building B were either on free or reduced lunch. The two elementary buildings were selected as the targeted schools for the study because each had student populations which reflected similar ethnic and socio-economic backgrounds and the teachers in both schools had similar teaching backgrounds and experience with one exception. One teacher had been trained in Reading Recovery, the other had not. Each teacher was coded for confidentiality and all names are pseudonyms.

Participants

This investigation involved two classroom teachers and 42 pupils with 19 students from Building A and 23 students from Building B.

The first set of participants were 19 first grade students and their classroom teacher, Mrs. Johnson from Building A.

Mrs. Johnson had taught for a total of nine years. Six of those years were spent teaching Title I, a federally-sponsored supplemental reading program. She was

trained in Reading Recovery in 1994-95 which consisted of a year-long supervised program. The most recent three years were spent teaching first grade. Her academic education included a bachelor's degree in fashion merchandising in1978, a secondary home economics degree in 1982, and a bachelor's degree in elementary education with a reading endorsement in 1993. In 1997, she received her master's degree in elementary education.

From the 19 students in Mrs. Johnson's class, a stratified sampling of nine students was randomly selected. Three were from each of the High, Average and Low achievement groups. Group memberships were based on scores on the Observation Survey and Developmental Reading Assessment. These students were selected from a group that consisted of 11 males and 8 females. Of the 19 students, 16 were African American, 2 Caucasian and 1 Hispanic. The low achievement group consisted of three African Americans; average achievement group had three African Americans, and the high achievement group had one Caucasian, one African American and one Hispanic student.

The second set of participants included 23 first grade students and their classroom teacher, Mrs. Smith from Building B.

Mrs. Smith was in her fourth year of teaching. Of those years, the first was spent teaching a second-third grade combination classroom, and the last three years teaching first grade. In 1999, she received her bachelor's degree in elementary education with early childhood and reading endorsements. In 2003, she obtained her master's degree in elementary education.

From this group of 23 students in Mrs. Smith's room, nine students were

randomly selected based on the same criteria as Mrs. Johnson's students. These students were selected from a group that consisted of 13 males and 10 females. Of those 23 students, 21 were African American and 2 Caucasian. The make-up of the random sample consisted of three African Americans in the low achievement group, three African Americans in the average achievement group, and two African Americans and one Caucasian in the high achievement group.

Procedures

Students were selected based on the assessment outcomes from the Observation Survey of Early Literacy Achievement (Clay 1993a), and the Developmental Reading Assessment (Beaver 1998). These students were then placed in High, Average and Low achievement groups (see Appendix B) according to the Observation Survey and Developmental Reading Assessment definitions. These assessment tasks provided insight on the selected student's progress in specific literacy areas (sight vocabulary, reading and comprehension). Information gathered from the Observation Survey enabled the investigator to determine the students' instructional reading level and observe the child's independent processing strategies and reading behaviors. The Developmental Reading Assessment provided information on reading accuracy of texts as well as reading for meaning on those given texts.

Data were also collected on the literature instruction provided by the participating first grade teachers. These data included audio-taped observations, informal conversations with the classroom teacher following each observation, and anecdotal records. This researcher observed in each classroom for approximately 30-45 minutes during reading or literacy instruction on four different occasions. Observation

of the classroom teachers' literacy instruction took place once a month for four months and on different days of the week. This researcher observed literacy instruction, organizational structure (individuals, pairs or small groups), teacher prompts (questions) and strategies, writing instruction, literacy themes, patterns and types of materials used.

Assessments

The Observation Survey of Early Literacy Achievement (Clay, 1993b), a battery of reading and writing tests, is used to select students for Reading Recovery enrollment. This survey is a good measurement instrument that provides teachers with: a standard task, a standard way of administering the task, ways of knowing when teachers can rely on their observations and make valid comparisons, and a task that is like a real world task as a guarantee that the observations will relate to what the child is likely to do in the real world. The observation tasks in this survey do not simplify the learning challenge. They do not measure children's general abilities, and they do not look for outcomes of a particular program. They tell teachers something about how the learner searches for information in printed texts and how that learner works with that information (Clay, 2002). The Observation Survey involves six literacy tests. The first is Letter Identification. This assesses all letters, lower and upper case. The task is designed to find out which alphabetic symbols the children are noticing. The second test is Word Test. The score will indicate the extent of which a child is accumulating a reading vocabulary. The third test is Concepts about Print. The child is asked to help the observer by pointing to certain features of the text while the observer reads the story. This task is designed to reveal what children are attending to, rightly or wrongly. The fourth test is Writing Vocabulary. The child is allowed 10 minutes to write down

all the words they know how to write, starting with their own name and making a personal list of words he/she has managed to learn. Writing behavior is a good indicator of a child's knowledge of letters and of the left-to-right sequencing behavior required to read. The fifth test is Hearing and Recording Sounds in Words. The teacher reads a sentence once, then reads it again slowly so that the child can write down all the words in the sentence. The child is encouraged to write what he or she can hear in the words dictated. This test shows how successful the child was at hearing the sounds in the words and finding a possible way of recording those sounds. The sixth test is Text Reading. The child is invited to read to the observer, who takes a running record of what the child is reading, or attempting to read. The prime purpose of a running record is to understand more about how children are using what they know to get the message of the text, or in other words what reading processes they are using (Clay 2002). A text read at each of the easy, instructional or hard levels will provide the necessary evidence for a summary of where the child is in their learning. Recording children's performance at three levels of text difficulty: an easy text (95 to 100 percent correct), an instructional text (90 to 94 percent), and a hard text (80 to 89 percent) is a more reliable way to establish what level of text should be used for information. The terms easy, instructional and hard used in running records do not describe the characteristics of the text itself. They describe how a particular child read the text.

Reading Recovery teachers administered the Observation Survey to all the first grade students during the first two weeks of first grade in both schools A and B. Children in the lowest 20% reading achievement groups in the classrooms were selected for Reading Recovery based on what most U.S. programs define as children

who are "at risk" (Groom, Lyons, Pinnell, DeFord, Sullivan, Cai, & Nilges, 1991 p.23). Reading Recovery teachers and classroom teachers administered this same battery of tests again mid-year as current Reading Recovery students were discontinuing and new students were entering the program. Test administration included first grade students selected for this project who did not qualify for Reading Recovery. To monitor progress, the Observation Survey was also administered to all students in this study in May. The observation tasks used in this survey are not readiness tests, which sort children according to whether they are ready to learn. Teachers need to know how to create appropriate instruction for each child, whatever his or her starting point. To do this effectively teachers must observe how literacy behaviors change throughout the first years of school. The observation tasks are not designed to produce samples of work for portfolios; they are designed to inform teachers about how children approach learning in the classroom.

The test battery includes:

- Letter Identification (upper and lower case letters)
- Word Test (sight words)
- Concepts About Print (how print encodes information)
- Writing Vocabulary
- Hearing and Recording Sounds in Words
- Text Reading (reading continuous text to determine an instructional reading level)

The Developmental Reading Assessment (DRA) is a performance assessment

developed and piloted by Joetta Beaver in collaboration with primary classroom teachers. For this investigation, the DRA was conducted in a one-on-one setting which allowed teachers to gather information about students' observable reading behaviors, use of strategies, comprehension and attitudes. This assessment was administered by the first grade classroom teachers in September, January, and April. The information gathered during this assessment informed the teachers' ongoing perceptions of each reader and supported their decisions in the selection of instructional goals to meet each child's needs. The DRA aims to assess students from a perspective of the total reading experience instead of assessing skills in isolation. In an effort to gain the whole picture of a primary student's reading achievement, the DRA is carefully structured to guide teacher inquiry. The DRA determines a reader's independent reading level and provides immediate information for instructional decision making; confirming or redirecting current teaching methods. This assessment also facilitates the effective grouping of students for reading experiences and instruction and works to identify children who may be working below proficiency or may need further assessment or intervention.

Components of this assessment included:

- Text Reading (silent continuous text to determine an instructional reading level. Silent and oral reading are required for text levels 18-44).
- Comprehension Questions (after oral and silent reading, book is closed and teacher asks for retelling).

Taylor, Peterson, Pearson, & Rodriguez (2002) found that, compared with their less accomplished or trained peers, more accomplished primary grade teachers who had

received specific training in literacy practices provided effective, direct instruction. They provided more small group than whole group instruction, elicited high levels of student engagement, preferred coaching over telling in interacting with pupils, and engaged students in more higher level thinking related to reading. The literature suggests first grade students in classrooms of trained teachers are exposed to effective direct instruction that makes learning goals clear (Taylor, Peterson, Pearson, & Rodriguez, 2002). It may also serve to generate further research on what can be done to help students who struggle with reading, yet cannot be served by specific programs such as Reading Recovery.

Data Analysis

Each classroom teacher provided formal and informal classroom assessment data necessary for this study. Data collected on students included: Marie Clay Observation Survey, (OS) and the Developmental Reading Assessment (DRA). The Observation Survey text level component was used to determine the text level growth of the students in each of the achievement groups: low, average and high. This component recorded and measured the students' reading performance at three levels of text difficulty (easy, instructional and hard). The Observation Survey allows the teacher to begin teaching at the child's instructional level. Systematic observation will determine which children are forming good ways of working on print, habits and skills. The assessments in the Observation Survey inform the teacher about readers' existing repertoire and how they are getting to certain responses, and whether they are relating information from one area to another. The Developmental Reading Assessment measured text level growth as well as reading comprehension on the texts read by the

students in each of the achievement groups. Scores from each classroom were compared in each of the low, average and high achievement categories. Text level growth as well as comprehension percentages were compared and graphed.

Results

Observations taken at the time of literacy instruction in both classrooms provided insight as to specific literacy strategies and behaviors taught or not taught during lessons.

Observations	Making & breaking skills	Picture walk & setting the stage; background knowledge	"Does that look right, sound right & make sense?"	Checking for understanding	Specific praises "I like the way you.....
Obs. 1A	2	3	2	3	3
1B	•	2	•	2	1
Obs. 2A	•	3	3	3	2
2B	•	3	1	2	1
Obs. 3A	1	3	2	2	3
3B	•	2	•	1	•
Obs. 4A	1	3	2	3	2
4B	•	1	2	2	1

Teacher A – Reading Recovery Trained
Teacher B – Non-Reading Recovery Trained
Incidence of observed behaviors:

- Not Present 1=Present/observed 2=Present/extended 3=Consistent and integral part of instructional practice

Figure 1. Observation Chart of Teacher Literacy Instructional Behaviors

Observations were recorded in a running narrative. This researcher was observing for particular literacy instruction behaviors emphasized in Reading Recovery training as essential elements of best practices in Reading Recovery instruction. For

purposes of this study, target behaviors (as listed in Figure 1) were first determined to be present or not present. Since being merely present does not necessarily reflect the effectiveness of strategy implementation, target behaviors were then ranked to the extent of implementation and the level of incorporation into the overall instructional content. A • indicates behavior not present. The number 1 is assigned if a target teaching behavior is present or observed but was neither a consistent or integral part of literacy instruction. The number 2 is assigned for behaviors consistently evident extending the instruction in a lesson purposively. The number 3 is assigned for target instructional behaviors that were clearly integral to daily instructional practice.

In both classrooms, instruction was positive; however, based on observation results, teacher A demonstrated use of specific Reading Recovery strategies more frequently and consistently. These results indicate differentiated instruction between teacher A and teacher B. Figure 1 demonstrates that during small and large group instruction teacher A consistently employed target strategies as an integral part of instruction and central to her practices. The number of 3s teacher A tallied during the observation reflect the consistency of her application of these elemental Reading Recovery strategies to her teaching. Over the period of four observations, she was consistent in using specific language and techniques often associated with Reading Recovery training.

Teacher B provided evidence of positive instruction in many ways. Her instructional practice incorporated many sound Reading Recovery supported strategies over the four observations. As shown in Figure 1, she received a 3 in the category of "setting the stage for a new book," and a 2 for making all three cue systems work

together, and "checking for understanding". The difference between the two teachers is marked by the incidence of best practices; it is clear that teacher A was more consistent and systematic.

The following questions were addressed: Do trained Reading Recovery teachers who are now in first grade classrooms provide differentiated literacy instruction that enable their students to become independent readers and writers in comparison with those teachers who have not been trained? Both teachers provided a variety of literacy instruction that enabled their students to build a "self-extending" system in which they could expand their reading and comprehension skills each time they interacted with a book. However, the trained Reading Recovery teacher provided consistent differentiated instruction over the course of the four observations. Instruction included both small and large group literacy activities as well as guided and independent activities. Differentiated instruction provided by the trained teacher was consistent with that of strategies associated with Reading Recovery training and Reading Recovery lessons. Specific strategies taught included: making and breaking of words, using all three cue systems while reading familiar and new text (meaning, structure, and visual cues) and journaling or sentence writing following the reading of a book. The non-trained teacher also provided small and large group instruction such as Guided Reading, KWL's and Literacy Centers. This instruction was provided consistently, but lacked consistent teaching of necessary specific strategies.

How do student achievement results in selected Reading Recovery classrooms where Reading Recovery strategies are applied compare with non Reading Recovery classrooms? The use of the DRA and OS proved to be an effective tool to assess book

level and comprehension skills of students in both classrooms. The results indicate that Reading Recovery training worked most effectively for the low and average achievement groups. An end of year comparison shows that the Reading Recovery training (teacher A) appeared to work most effectively for the low and average groups of students according to the DRA assessment of text level growth.

Low				Average				High			
Teacher A		Teacher B		Teacher A		Teacher B		Teacher A		Teacher B	
A1	5	B1	4	A1	16	B1	16	A1	20	B1	30
A2	9	B2	2	A2	20	B2	10	A2	16	B2	34
A3	12	B3	8	A3	16	B3	14	A3	34	B3	34

A1-A3 Teacher A – Reading Recovery trained
B1-B3 Teacher B – Non-Reading Recovery trained

Figures represent students' reading text level

Figure 2. End of Year Text Level Scores According to the DRA

The DRA posttest results showed that the students in the low achievement group who received instruction from a trained Reading Recovery teacher grew an average of 8 text levels and were answering 75% or higher of the comprehension questions that accompanied the texts. Those students not receiving instruction from a trained Reading Recovery teacher showed a growth of 5 text levels while answering 75% or higher of the comprehension questions. The OS posttest indicated similar results for the low achievement group. Those receiving trained Reading Recovery instruction grew an average of 9 text levels while those receiving instruction from a non-trained Reading Recovery teacher grew an average of 5 text levels. The DRA posttest results showed that students in the average achievement group who received instruction from a

trained Reading Recovery teacher increased their text level by an average of 15 levels while answering 75% or higher of the comprehension questions that accompanied the texts. Those students in the average achievement group who did not receive instruction from a trained Reading Recovery teacher showed an average growth of 12 text levels while answering 75% or higher of the comprehension questions that accompanied the texts. The OS posttest yielded similar findings of text level growth for the average achievement group in which all 9 students showed an increase in text level with the students in the classroom of the trained Reading Recovery teacher growing an average of 16 levels and those in the non-trained classroom growing an average of 12 text levels.

Can teachers who have received Reading Recovery training effectively and beneficially apply systematic and remedial one-on-one and small group instruction? The results from this study indicate that this type of instruction can effectively be applied. Results from the DRA and OS indicate consistent growth in students who are reading increasingly difficult text and answering challenging comprehension questions that accompany those texts. One-on-one and small group instruction that is taught consistently and effectively by a trained Reading Recovery teacher provided students with the strategies and skills needed to be independent readers and writers. An independent reader and writer can successfully apply helpful strategies while working on their own in the classroom setting. The independent or instructional reading level is categorized as a student being able to read a text with 90-94% accuracy.

At the beginning, middle and end of the year the text level series for the Observation Survey and Developmental Reading Assessment was administered by the

classroom teachers (Mrs. Johnson and Mrs. Smith) to their students. Table 1 shows the pre, middle, and post scores of the low achievement groups on the DRA (Developmental Reading Assessment). Students who received literacy instruction from the trained Reading Recovery classroom teacher (A1-A3 as in table) recorded an average growth of 8 text levels. Those students not receiving instruction from a trained Reading Recovery teacher (B1-B3) showed an average growth of 5 text levels. Table 2 shows the pre, middle and post scores of the low achievement group according to the OS (Observation Survey). Students receiving instruction from the trained Reading Recovery teacher (A1-A3) showed an average growth of 9 text levels. Those students not receiving instruction from a trained Reading Recovery teacher (B1-B3) achieved an average growth of 5 text levels. Table 3 shows the pre, middle and post scores of the average achievement group on the DRA. Students receiving literacy instruction from the trained Reading Recovery teacher (A1-A3) showed an average growth of 15 text levels. Those students who did not receive instruction from a trained Reading Recovery teacher (B1-B3) showed an average growth of 12 text levels. Table 4 shows the pre, middle and post scores of the average achievement group according to OS results. Students receiving instruction from the trained Reading Recovery teacher (A1-A3) showed an average growth of 16 text levels. Those students not receiving instruction from a trained Reading Recovery teacher (B1-B3) showed an average growth of 12 text levels.

Table 5 shows the pre, middle and post scores of the high achievement group according to the DRA. Those students receiving instruction from the trained Reading Recovery teacher (A1-A3) displayed an average growth of 19 text levels. Students not

receiving instruction from a trained Reading Recovery teacher (B1-B3) showed an average growth of 20 text levels. Table 6 shows the pre, middle and post scores of the high achievement group according to the OS. Students receiving literacy instruction from the trained Reading Recovery teacher (A1-A3) showed an average growth of 19 text levels. Students not receiving literacy instruction from a trained Reading Recovery teacher (B1-B3) showed an average growth of 21 text levels.

The comprehension component of the DRA was also used as a measurement tool which provided another criteria for measuring student performance. Both classroom teachers administered the DRA comprehension questions at the beginning, middle and end of the year. Tables 7, 8, and 9 focus on the comprehension scores of the DRA administered to each student in the Fall, Mid-Year and Spring. The comprehension scores were recorded at the highest instructional text level the child was able to read, yielding a score at or above 90% in oral reading accuracy and 75% in comprehension accuracy. Testing was stopped if either score fell below these criteria.

Table 7 shows the pre, middle and post scores of the low achievement group. Students A1-A3 received instruction from the trained Reading Recovery teacher; students B1-B3 did not receive instruction from a trained Reading Recovery teacher. Student A1 recorded a comprehension score of Nil (0%) at instructional text level 1 in the fall, 80% at instructional text level 4 mid-year, and 60% at instructional text level 6 in the spring. Student A2 demonstrated comprehension scores of Nil (0%) at instructional text level 1, 100% at instructional text level 6, and 85% at instructional text level 9. Student A3 showed a comprehension score of Nil (0%) at instructional text level 2 in the fall, 100 at instructional text level 3 mid-year, and 80% at instructional

text level 12 in the spring. Students B1-B3 are from the non-trained Reading Recovery classroom. Student B1 recorded a comprehension score of Nil (0%) at instructional text level A in the fall, 80% at instructional text level 4 mid-year, and 80% at instructional text level 4 in the spring. Student B2 demonstrated comprehension scores of Nil (0%) at instructional text level A in the fall, 80% at instructional text level 2 mid-year, and 65% at instructional text level 3 in the spring. Student B3 showed a comprehension score of Nil (0%) at instructional level A in the fall, 100% at instructional text level 6 mid-year, and 80% at instructional level 8 in the spring.

Table 8 shows the pre, middle and post scores of the average achievement group. Students A1-A3 received instruction from a trained Reading Recovery teacher. Student A1 recorded comprehension scores of 100% on text level 1, 100% on text level 10, and 90% on text level 16 over the school year. Student A2 recorded comprehension scores of 100% on text level 3, 100% on text level 12, and 83% on text level 20. Student A3 demonstrated comprehension scores of Nil (0%) on text level 2, 100% on text level 6, and 80% on text level 16. Students B1-B3 received literacy instruction from a non-trained Reading Recovery teacher. Student B1 recorded comprehension scores of Nil (0%) on text level A, 100% on text level 3, and 100% on text level 16. Student B2 demonstrated comprehension scores of Nil (0%) on text level 2, 100% on text level 4, and 80% on text level 10. Student B3 recorded comprehension scores of Nil (0%) on text level A, 100% on text level 4, and 100% on text level 14.

Table 9 depicts the pre, middle and post scores of the high achievement group. Here, student A1 generated comprehension scores of 100% at text level 4, 100% at text level 12, and 90% at text level 20. Student A2 showed comprehension scores of 100%

on text level 3, 80% on text level 14, and 100% on text level 16. Student A3 demonstrated comprehension scores of 100% on text level 6, 100% on text level 20, and 83% on text level 34. Student B1 recorded comprehension scores of 80% on text level 14, 100% on text level 24, and 83% on text level 30. Student B2 comprehension scores were of 100% on text level 5, 100% on text level 14, and 100% on text level 34, and student B3 compiled comprehension scores of 83% on text level 18, 100% on text level 30, and 83% on text level 34.

Conclusion

The purpose of this study was to determine whether trained Reading Recovery teachers effectively enhanced general first grade classroom student performance. It appeared from the research data that instruction given to first grade students by a trained Reading Recovery teacher did increase students' reading level, as well as comprehension skills. The increase was more evident in the low and average achieving groups when applying a battery of formal and informal assessments developed by the Reading Recovery program to measure students' reading achievement and systematic application of metacognitive strategies.

The use of the Developmental Reading Assessment and Observation Survey proved to be effective tools to assess the book level growth and comprehension skills in both classrooms. The DRA and OS assessed the student's reading level at the beginning and end of this study. Though the reading levels of both classrooms increased, the largest increase took place in the classroom with the trained Reading Recovery teacher. This researcher found trends in the low and average achieving groups suggesting these students benefited most from the Reading Recovery training.

Though this is a pilot study, it is reasonable to attribute this trend to specific strategies and differentiated instruction systematically being employed by the trained Reading Recovery teacher. Marie Clay predicted such an outcome when teachers in regular classrooms provide this type of instruction over a period of more than 20 weeks. She writes, "The difficulties of the young child might be more easily overcome if they had practiced error behavior less often, had less to unlearn and relearn, and still had reasonable confidence in their own ability" (Clay, 1979). Reading Recovery teachers suggest application of Reading Recovery training to regular first grade instruction does indeed reduce student error practice and lessens the necessity to unlearn ineffective strategies while appearing to strengthen student confidence. Certainly the achievement rate itself, as measured by the number of books completed, will sustain if not boost confidence over less success and lowered measurable achievement as realized by the non Reading Recovery trained classroom students.

The National Reading Panel Report (National Institute of Child Health and Human Development, 2000) concluded that instruction in systematic phonics, phonemic awareness, fluency, and comprehension strategies was important in a complete reading program. The panel's conclusions are consistent with the findings of Pressley et al. (2002) regarding the balance that outstanding primary-grade teachers achieve in their classroom reading programs. Pressley found that well trained teachers taught skills, actively engaged students in a great deal of actual reading and writing, and fostered self-regulation in students' use of strategies.

The cost of a program such as Reading Recovery is an important consideration for many school districts. With the rash of recent budget cuts, many districts are

evaluating what programs are producing the most benefits for their students. How might the costs of Reading Recovery be reduced? One approach may be to develop a more comprehensive model that involves small group instruction instead of a tutorial. This approach is consistent with having a trained Reading Recovery teacher in the classroom. These group oriented early interventions, including those based on Reading Recovery procedures, appear promising (Shanahan & Barr, 1995). This instruction has typically focused on three or four children at a time, reducing the cost of intervention by 50 to 75%.

Classroom literacy instruction needs to reflect best practices. In addition to what teachers teach, how teachers teach is also important to consider when seeking to make changes in reading instruction to improve students' reading achievement. Currently, the improvement of children's reading achievement is a major goal in the United States (Taylor, Peterson, Pearson, & Rodriguez, 2002). Schools know that a wealth of information exists to help them move toward this goal, but putting all of the relevant pieces together remains a challenge. Ongoing professional development in which teachers work together within buildings to reflect on their practice is one important piece of the total package that is needed to ensure that "no child is left behind" (Taylor, Peterson, Pearson, & Rodriguez, 2002).

This researcher believes having trained Reading Recovery teachers in the classroom appears to be an effective way to increase first grade reading achievement. Additional research of a larger population could provide educators with a better understanding of the benefits of Reading Recovery training in the classroom. This researcher encourages other school districts with trained Reading Recovery teachers in

their first grade classrooms to conduct an expanded study using this study as a model. Such a study would likely not only substantiate these findings, but provide districts with a convincing argument that investment in Reading Recovery training is not an expense to avoid but a cost saving investment. District investment would provide returns in broad improvements in instructional practices, a reduction in remediation demands, and an increase in overall achievement of low and average achieving students.

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Table 1 Low Achieving Group DRA/Text Level

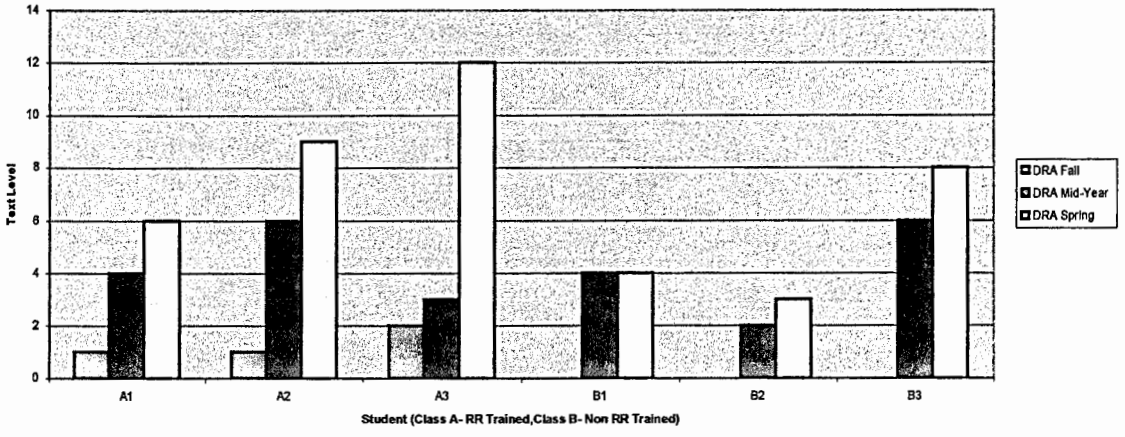
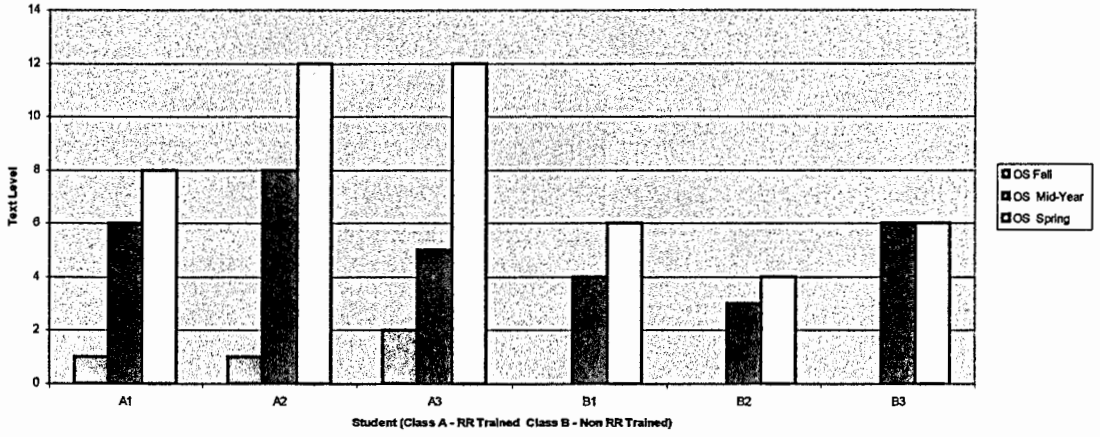


Table 2 Low Achieving Group OS/Text Level



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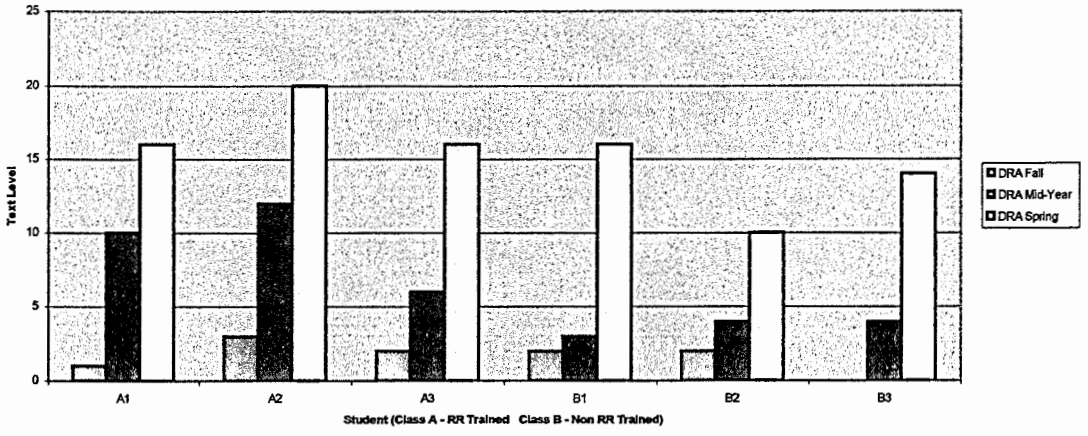


Table 4 Average Achieving Group OS/Text Level

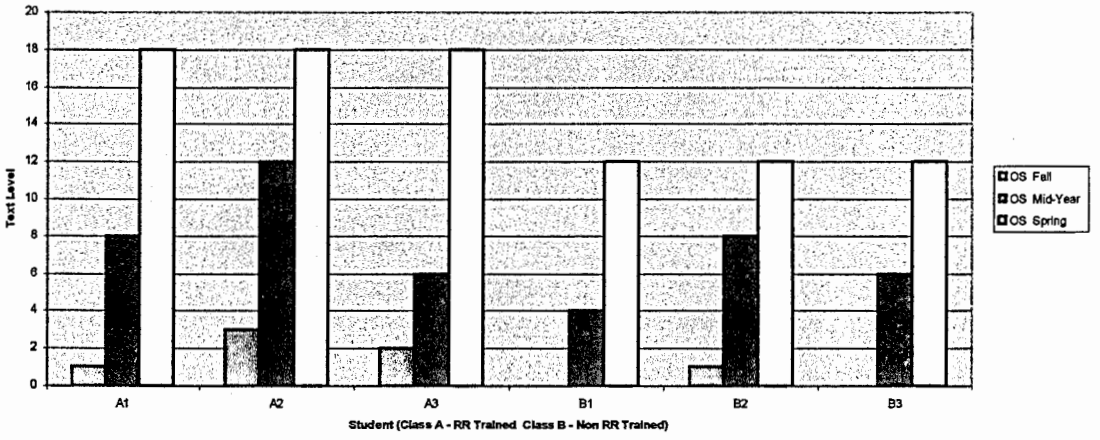


Table 5 High Achieving Group DRA/Text Level

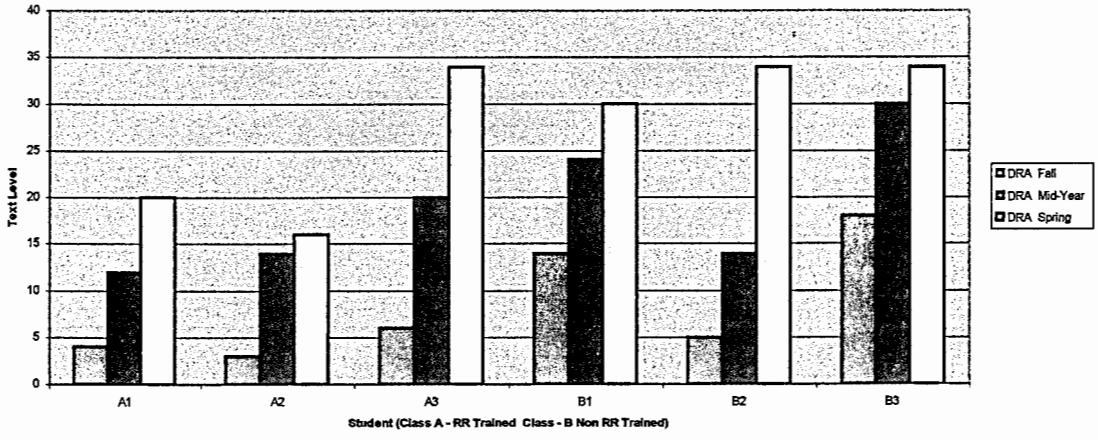


Table 6 High Achieving Group OS/Text Level

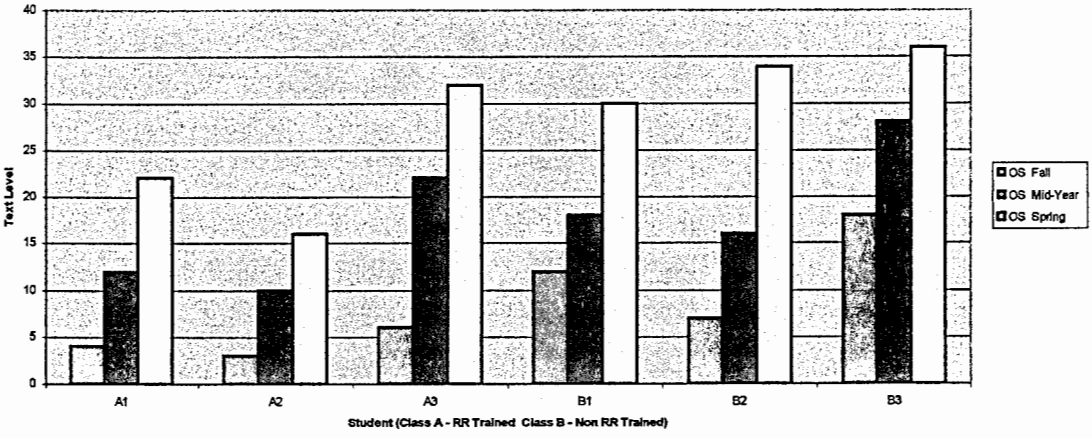


Table 7 Low Achieving Group DRA/Comprehension

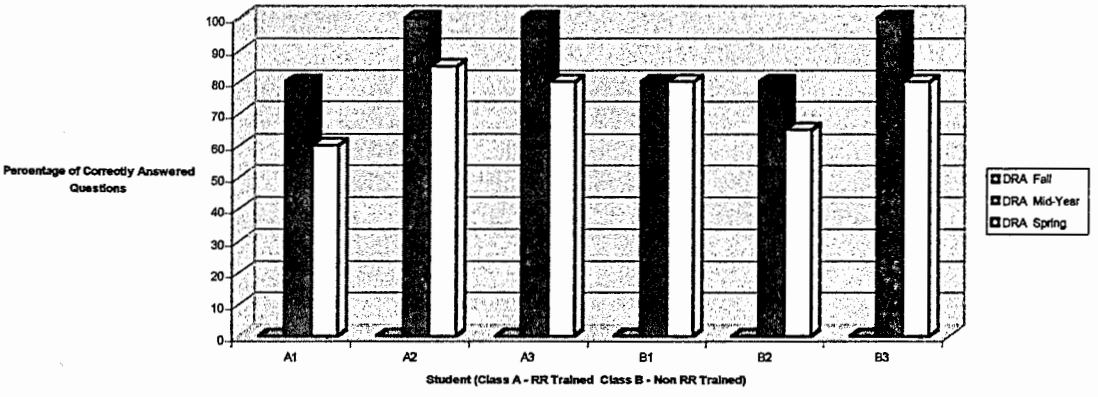


Table 8 Average Achieving Group DRA/Comprehension

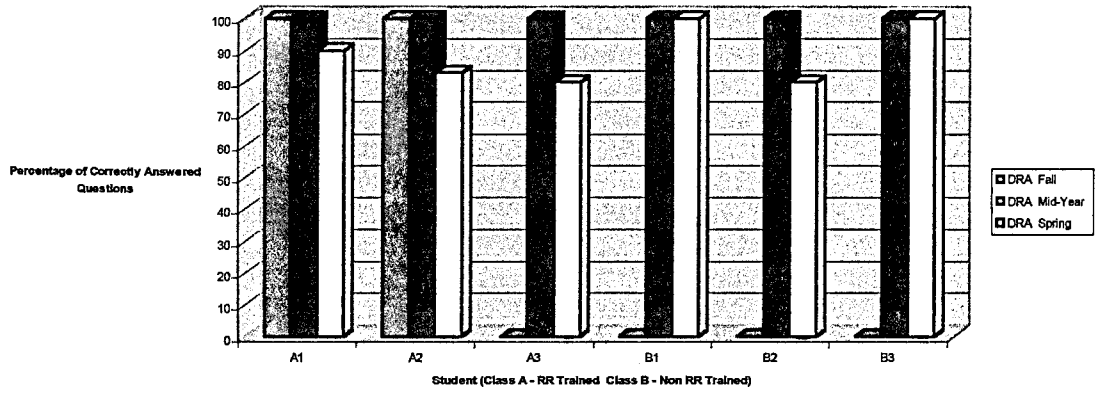
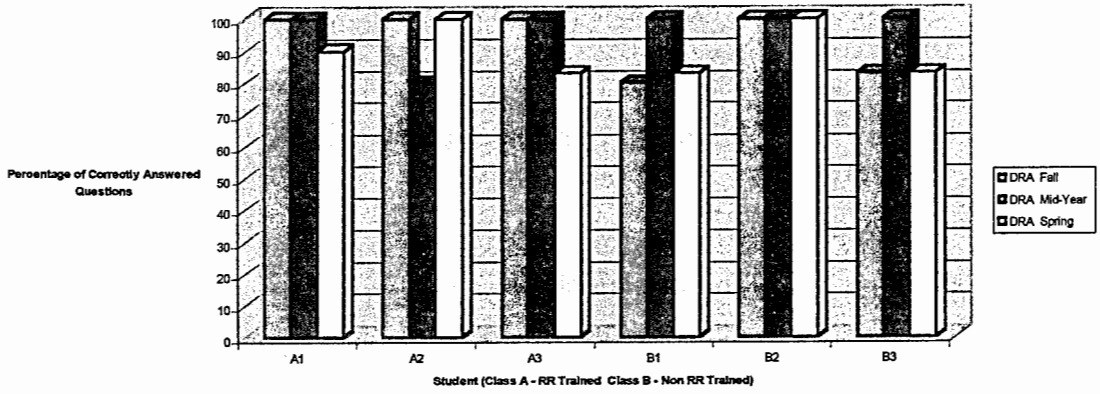


Table 9 High Achieving Group DRA/Comprehension



Appendix A

Battery of Assessments

Observation Survey

- Letter Identification (upper and lowercase letters)
- Word Test (sight words)
- Concepts About Print (how print encodes information)
- Writing Vocabulary
- Hearing and Recording Sounds in Words
- Text Reading (reading continuous text to determine an instructional level)

Developmental Reading Assessment

- Text Reading (reading continuous text to determine an instructional reading level. Silent and oral reading are required to text levels 18-44).
- Comprehension Questions (after oral and silent reading, book is closed and teacher asks for retelling).

Appendix B

Achievement Categories

Definitions of High, Average, and Low Categories

High (Independent)

A child in this range is reading with a 95% or higher accuracy percentage. Books read in this range tend to be "easy" for the reader, and very little work has to be done on the part of the reader.

Average (Instructional)

A child in this category is reading in the range of 90-94% accuracy. There are good opportunities for teachers to observe childrens' reading work in this range.

Low (Hard)

A child in this category is reading in the range of 89% or lower. In this range the reader tends to lose the support of the meaning of the text.

Appendix C

Observations

Teacher	Date Time	Students Present	Topics Observed
Mrs. Johnson	11-26-01 9:25-10:25	17	Large group literacy instruction, making and breaking new words. Students involved in locating first and last parts of rhyming words.
Mrs. Johnson	12-20-01 9:25-10:15	17	Two guided reading groups. Both were in homogeneous settings. Extension activities followed each group (flip books assessing first, middle, and last parts of story.
Mrs. Johnson	1-30-02 9:40-10:15	19	Literacy centers in which students worked in pairs and individually. Homogeneous guided reading lesson with extension activity involving journal writing.

Mrs. Johnson	2-26-02 9:30-10:25	17	Large group literacy instruction. Sequential ordered stories-beginning, middle and end. Homogeneous guided reading group. Teacher checking for understanding after each page.
Mrs. Smith	11-27-01 10:25-10:50	20	Homogeneous Guided reading lesson. Teacher assessing background knowledge of students after book introduction. Students locating known words in book.
Mrs. Smith	12-21-01 10:30-11:10	21	Large group shared reading lesson. KWL was used as an introduction to "winter". Teacher provided first example for KWL. Teacher read non-fiction book about winter.
Mrs. Smith	1-31-02 10:20-11:15	23	Literacy centers, book boxes and a homogeneous guided reading group. Teacher using analogies

			during book introduction. Students worked individually and in pairs during centers.
Mrs. Smith	2-27-02 10:20-11:00	20	Two homogeneous guided reading groups. Both lessons began with familiar reading. Teacher giving specific prompts "What would you expect to see at the beginning or ending of …?"